

What is claimed is:

1. An electrolyte, wherein an electrolytic solution containing at least one from the group consisting of vinylethylene carbonate and its derivatives in the range of 0.05 wt% to 5 wt% in total and a high molecular weight compound are contained.
2. An electrolyte according to claim 1, wherein the electrolytic solution further contains ethylene carbonate and propylene carbonate by a mass ratio of ethylene carbonate:propylene carbonate=15:75:85:25.
3. An electrolyte according to claim 1, wherein the electrolytic solution further contains a nonaqueous solvent and a lithium salt.
4. An electrolyte according to claim 3, wherein the lithium salt contains at least one from the group consisting of LiBF_4 , LiPF_6 , LiAsF_6 , LiClO_4 , LiCF_3SO_3 , $\text{LiN}(\text{CF}_3\text{SO}_2)_2$, $\text{LiN}(\text{C}_2\text{F}_5\text{SO}_2)_2$, $\text{LiC}(\text{CF}_3\text{SO}_2)_3$, LiAlCl_4 and LiSiF_6 .
5. An electrolyte according to claim 3, wherein the nonaqueous solvent contains any one from the group consisting of ethylene carbonate, propylene carbonate, γ -butyrolactone, dimethyl carbonate, diethyl carbonate, ethyl methyl carbonate, dipropyl carbonate, ethyl propyl carbonate, and one wherein hydrogen of these carbonic acid esters is substituted with halogen.

6. An electrolyte according to claim 1, wherein the high molecular weight compound contains any one from the group consisting of polyvinylidene fluoride, polyethylene oxide, polypropylene oxide, poly acrylic nitrile, and poly methacrylic nitrile in recurring unit.

7. An electrolyte according to claim 1, wherein the high molecular weight compound is polyvinylidene fluoride or a copolymer in which hexafluoro propylene is introduced in polyvinylidene fluoride.

8. A battery comprising:

a cathode;

an anode; and

an electrolyte,

wherein the electrolyte contains an electrolytic solution containing at least one from the group consisting of vinyl ethylene carbonate and its derivatives in the range of 0.05 wt% to 5 wt% in total and a high molecular weight compound.

9. A battery according to claim 8, wherein the electrolytic solution further contains ethylene carbonate and propylene carbonate by a mass ratio of ethylene carbonate:propylene carbonate=15:75:85:25.

10. A battery according to claim 8, wherein the electrolytic solution

further contains a nonaqueous solvent and a lithium salt.

11. A battery according to claim 10, wherein the lithium salt contains at least one from the group consisting of LiBF_4 , LiPF_6 , LiAsF_6 , LiClO_4 , LiCF_3SO_3 , $\text{LiN}(\text{CF}_3\text{SO}_2)_2$, $\text{LiN}(\text{C}_2\text{F}_5\text{SO}_2)_2$, $\text{LiC}(\text{CF}_3\text{SO}_2)_3$, LiAlCl_4 and LiSiF_6 .

12. A battery according to claim 10, wherein the nonaqueous solvent contains any one from the group consisting of ethylene carbonate, propylene carbonate, γ -butyrolactone, dimethyl carbonate, diethyl carbonate, ethyl methyl carbonate, dipropyl carbonate, ethyl propyl carbonate, and one wherein hydrogen of these carbonic acid esters is substituted with halogen.

13. A battery according to claim 8, wherein the high molecular weight compound contains any one from the group consisting of polyvinylidene fluoride, polyethylene oxide, polypropylene oxide, poly acrylic nitrile, and poly methacrylic nitrile in recurring unit.

14. A battery according to claim 8, wherein the high molecular weight compound is polyvinylidene fluoride or a copolymer in which hexafluoro propylene is introduced in polyvinylidene fluoride.